Pascal Sturmfels

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WORK EXPERIENCE

Research Assistant

University of Washington
SEPTEMBER 2018 – PRESENT

As a PhD student, I am advised by Su-In Lee. My current research interests involve interpretable machine learning and its applications to biological data, as well as the intersection between interpretability and adversarial examples.

Research Assistant

University of Michigan
SEPTEMBER 2017 – MAY 2018

After completing my undergraduate degree, I worked as a full time research assistant in the MLD^3 lab. There I developed novel architectures to learn biomarkers from structural MRI imaging, and developed the first deep pipeline to segment brains in fetal fMRI imaging.

Software Engineering Intern

Microsoft, Redmond
MAY 2017 – JULY 2017

At Microsoft, I developed a pipeline to stress-test financial databases that help product teams make marketing decisions. I also designed a system to monitor my team's database usage and automatically scale them depending on existing demand.

Mobile Developer

University of Michigan, Ann Arbor
JANUARY 2016 – DECEMBER 2016

Through the MDP program, I created a mobile application for peer-to-peer communication designed to promote free speech.

Research Assistant

University of Maryland, College Park
JUNE 2016 – AUGUST 2016

I participated in Maryland's CAAR REU. There, I developed a novel framework for a class of online machine scheduling problems that provides that lowest existing approximation ratios for such problems.

Research Assistant

University of California, Berkeley
MAY 2015 – JULY 2016

As an undergraduate, I worked in the Pachter Lab, where I developed data visualization tools for the differential gene expression software sleuth. We published an article about the reproducibility of computational biology experiments here.

EDUCATION

CURRENT	**PhD in Computer Science** *University of Washington, Seattle*
DEC. 2017	**BSE in Computer Science** **Minor in Mathematics** *University of Michigan, Ann Arbor*

TEACHING EXPERIENCE

FALL 2018	**Teaching Assistant** **CSE 546: Machine Learning** *University of Washington*
FALL 2017	**Teaching Assistant** **EECS 445: Machine Learning** *University of Michigan*
WINTER 2017	**Teaching Assistant** **EECS 376: Introduction to Theory of Computation** *University of Michigan*

PUBLICATIONS

[1] Gabriel Erion, Joseph D Janizek, Pascal Sturmfels, Scott Lundberg, and Su-In Lee. "Learning Explainable Models Using Attribution Priors". In: *arXiv preprint arXiv:1906.10670* (2019).

[2] Samir Khuller, Jingling Li, Pascal Sturmfels, Kevin Sun, and Prayaag Venkat. "Select and permute: An improved online framework for scheduling to minimize weighted completion time". In: *Theoretical Computer Science* (2019).

[3] Harold Pimentel, Pascal Sturmfels, Nicolas Bray, Pall Melsted, and Lior Pachter. "The Lair: a resource for exploratory analysis of published RNA-Seq data". In: *BMC Bioinformatics* 17.1 (2016), p. 490. ISSN: 1471-2105. DOI: 10.1186/s12859-016-1357-2.

[4] Saige Rutherford, Pascal Sturmfels, Mike Angstadt, Jasmine Hect, Jenna Wiens, Marion I van den Heuval, Dustin Scheinost, Moriah Thomason, and Chandra Sripada. "Observing the origins of human brain development: Automated processing of fetal fMRI". In: *bioRxiv* (2019), p. 525386.

[5] Pascal Sturmfels, Saige Rutherford, Mike Angstadt, Mark Peterson, Chandra Sripada, and Jenna Wiens. "A Domain Guided CNN Architecture for Predicting Age from Structural Brain Images". In: *Machine Learning for Healthcare Conference*. 2018, pp. 295–311.